

## REMARKS

### Claim Rejections Under 35 USC §102 and 35 USC §103

Claims 24 and 25 have been rejected under 35 USC 102(a) as being unpatentable over Lee et al. (U.S. Patent No. 5,796,586).

Claims 26-29 have been rejected under 35 USC §103(a) as being unpatentable over Lee et al. (U.S. Patent No. 5,796,586) in view of Hoffman et al. (U.S. Patent No. 5,360,942).

Claims 30-32, 34 and 35 have been rejected under 35 USC §103(a) as being unpatentable over the admitted prior art (APA) in view of Lee et al. (U.S. Patent No. 5,796,586).

Claims 33 and 36 have been rejected under 35 USC §103(a) as being unpatentable over the admitted prior art (APA) in view of Lee et al. (U.S. Patent No. 5,796,586), as applied to claims 30 and 34 above, and further in view of Hoffman et al. (U.S. Patent No. 5,360,942).

The rejections under 35 USC §102 and 35 USC §103 are traversed for the reasons to follow.

### Additional Claim Recitations

The claims have been amended to include recitations which further distinguish the invention from the prior art. In particular, independent claims 24, 27, 30 and 34 include the recitation of "the first mask and the second mask comprising a photoimageable material and the opening comprising an exposed and developed portion of the second mask". Antecedent basis for this recitation is contained on page 11, lines 15-20 of the specification. One advantage of the exposed and developed second mask is that it can have a die attach opening with a precise outline corresponding to that of the die.

Although APA discloses first and second masks made of a photoimageable material (page 3, lines 31-34 of the specification), there is no suggestion of a die attach area defined by an opening which comprises an exposed and developed portion of the second mask. In Lee et. al. the solder mask 218 (Figure 6) preferably comprises a polyimide compound (column 5, lines 42-43), and covers only a small portion of the surface 116 of the substrate board 200 (e.g., 5-30% as described at column 5, lines 33-37). In the Lee et al. package, an exposed and developed opening for a die attach area would not be practical, as the development process would remove most of the mask.

The solder mask 218' (Figure 7) in Lee et al. is described as being a photoimageable material (column 7, lines 64-67). However, the mask 218' is described as being "applied" (column 8, lines 8-9), and there is no suggestion of an "exposed and developed" opening which defines a die attach area as presently claimed.

Also with respect to the "exposed and developed" recitations, Applicant is aware of the case law which states that "method for making" recitations cannot be used as patentable distinctions in a product claim. However, in this case the "exposed and developed" recitations define actual physical characteristics of the second mask, rather than merely a method of making the second mask.

As the cited prior art does not teach an "exposed and developed" opening in a photoimageable mask which defines a die attach area on a substrate, the additional limitations are submitted to overcome the 35 USC §102 rejections over Lee et al., the 35 USC §103 rejections over Lee et al. and Hoffmann et al., and the 35 USC §103 rejections over APA and Lee et al.

Independent claims 27 and 30 also include the recitation of "a resin encapsulating the die and covering the second mask". Antecedent basis for this recitation is contained on page 14, lines 8-10 of the specification,

which states that the die is "encapsulated", and in Figure 7 of the drawings which shows the encapsulating resin 90 "covering" the second mask 80A. With respect to the rejections of claims 27-29 over the combination of Lee et al. and Hoffmann et al., Lee et al. specifically teaches encapsulating material 224 (Figure 6) which either has a minimal contact area with the solder mask 218 (column 6, lines 56-60), or alternately removal of the encapsulating material by formation of a gate area 252 (Figure 7) on the solder mask 218' (column 8, lines 13-17).

With respect to the 35 USC §103 rejections of claims 30-36 over APA and Lee et al., the APA package 10 (Figure 1A) does illustrate the encapsulating resin 38 covering the mask 20B. However, as Lee et al. specifically teaches away from this configuration, there would be no incentive for combining this feature of the APA package 10 with the Lee et al. package. As held in In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), references are not properly combinable if their intended function is destroyed.

### Conclusion

In view of the above arguments and amendments, favorable consideration and allowance of claims 24-36 is respectfully requested. Should any issues arise that will advance this case to allowance, the Examiner is asked to contact the undersigned by telephone.

DATED this 26th day of March, 2004.

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March 26, 2004  
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